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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,063	10/05/2005	Koichiro Oiyama	2005_1432A	6099
513 7590 03/14/2008 WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021				
EXAMINER				
LEE, GILBERT Y				
ART UNIT		PAPER NUMBER		
3673				
MAIL DATE		DELIVERY MODE		
03/14/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/552,063

**Applicant(s)**

OIYAMA ET AL.

**Examiner**

GILBERT Y. LEE

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CIS)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/22/08 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7 and 9-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble to the claims clearly only claim the subcombination of a lip-type seal; however, the body of the claims clearly claim the combination of a lip-type seal and a shaft. The examiner is making an inquiry as to whether the applicant is claiming only the subcombination of a lip-type seal or the combination of a lip-type seal and a shaft. If the latter is being claimed, then the preambles to the claims must be amended to reflect the combination. The preamble must also be changed from a "lip-type" to just

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a "lip"; however, it is suggested to the applicant to change the preamble to something similar to "A seal system" since it is unclear as to how a lip seal can have a support ring.

Claims 9-10 are rejected for depending upon a rejected claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. (US Pub. No. 2001/0030398 A1) in view of Bertin (US Patent No. 4,167,981)

Regarding claim 7, the Hosokawa et al. reference discloses a lip-type seal (Fig. 1) for sealing an outer periphery of a shaft (32) supported by a predetermined housing (31), said lip-type seal comprising:

an elastic seal ring (5, Para. [0036]) including an annular fitted part (e.g. 5a) and a lip part (13), said annular fitted part to be fitted into a hole (Fig. 1) of said housing, said lip part extending from said fitted part inwardly in a radial direction in the shape of a substantially conical ring (Fig. 1) that is to be brought into contact with the shaft (Fig. 1); and

a support ring 912) including an annular joint part (e.g. part in contact with element 1), and an annular supporting part (e.g. 12a), the annular supporting part

defining a hole (Fig. 1) through which the shaft is to pass (Fig. 1), extending from a side of said annular joint part to a middle region of said lip part (Fig. 1), and supporting said lip part, from inwardly of said lip part, in the radial direction (Fig. 1),

wherein said lip part is formed so as to extend linearly when high pressure is not applied to said lip part (Fig. 1) and be tapered in cross section (Fig. 1) in cross section from an area at which non-contact with said annular supporting part begins toward an end of said lip part (Fig. 1), including the inner diameter of the lip part being smaller than the outer diameter of the shaft (Fig. 1).

However, the Hosokawa et al. reference fails to explicitly disclose a value of  $T0/T1$  falling within .3. to .7, with  $T1$  being a thickness of said lip part at the area at which non-contact with said annular supporting part begins, and  $T0$  being a thickness of said end of said lip part and also fails to explicitly disclose a value  $(D1-D0)/D1$  falling within .03 to .15, with  $D0$  being an inner diameter of said end part of said lip part, and  $D1$  being an outer diameter of the shaft..

The Bertin reference, a lip seal for a shaft, discloses a value of  $T0/T1$  being of the order of 1 to 2.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a value of  $T0/T1$  falling within .3 to .7 to the Hosokawa et al. reference in view of the teachings of the Bertin reference in order to reduce a pressure drop at the contact ridge (Bertin, Col. 1, Lines 43-48).

Discovering an optimum range of a result effective variable involves only routine skill in the art. Since applicant has not shown some unexpected result the inclusion of

this limitation is considered to be a matter of mechanical expedience. It would have been obvious to one of ordinary skill in the art at the time of invention to provide (D1-D0)/D1 falling within .03 to .15 to the Hosokawa et al. reference in order to ensure the lip end portion sufficiently contacts the rotation shaft to prevent fluid leaks.

Regarding claim 9, the Hosokawa et al. reference, as modified in claim 7, discloses an end of said annular supporting part being bent (Hosokawa et al., Fig. 1) away from said lip part so as to define the area at which non-contact with said annular supporting part begins (Hosokawa et al., Fig. 1).

Regarding claims 10 and 11, the Hosokawa et al. reference, as modified in claim 9 and 7 respectively, discloses the lip part being 85 degrees to 98 degrees in material hardness according to JIS hardness (Hosokawa et al., Para. [0052]).

### ***Response to Arguments***

4. Applicant's arguments filed 12/21/07 have been fully considered but they are not persuasive.

With regards to the applicant's argument of the newly amended claim 7, the argument is not persuasive because as rejected above. The Hosokawa et al. '398 reference clearly discloses an interference fit, as shown in Fig. 1. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of mechanical expedience.

### ***Conclusion***

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GILBERT Y. LEE whose telephone number is (571)272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia L Engle/  
Supervisory Patent Examiner, Art  
Unit 3673

/G. Y. L./  
Examiner, Art Unit 3673